November - December 1989

FAA Aviation NEWS

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**Federal Aviation
Administration**

FAA Aviation NEWS

November/December 1989
Volume 28, Number 6

Samuel K. Skinner, *Secretary of Transportation*
James B. Busey, *FAA Administrator*
Daniel C. Beaudette, *Director, Flight Standards Service*
W. Michael Sacrey, *Manager, General Aviation Staff*
Gary D. Koch, Sr., *Manager, Accident Prevention Program Branch*
David Gelfan, *Editor-In-Chief*
Louise Oertly, *Associate Editor*

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BRIEFS

COMPUTERIZED TESTS. FAA written airman examinations may now be taken at any of the 64 testing centers of a commercial computer testing company. Private Pilot and Commercial Pilot written tests are currently available; all remaining written exams will also be offered after January 1, 1990. For costs and location of nearby test centers, call 800-446-9554.

HOT ROUTES. B-50 military jets conducting low-level bombing practice in the vicinity of Loring AFB, ME, have been authorized to exceed the 250 knot airspeed limit normally in effect at altitudes below 10,000 feet MSL. Only non-explosive bombs are dropped.

General aviation pilots should avoid flying near these training routes when in military use. Check with the FSS for dates.

HARTZELL AD. Priority mail letters were sent out in November by FAA to registered owners and operators of aircraft with certain Hartzell three-bladed propellers, requiring specified maintenance within 25 flight hours of the 11/20/89 effective date--and repetitively at 50 hour intervals thereafter.

This Airworthiness Directive (AD 89-22-05) was issued following 12 recent occurrences in which the forward hub face was found to be cracked. In one instance blade separation occurred in flight, resulting in loss of the pilot and aircraft.

Receipt of AD's may be delayed, when the registration address is that of a lending institution. Affected owners and operators who have not yet received this AD should contact their nearest Flight Standards District Office and request a copy. Be alert also for a Hartzell AD concerning certain fixed-pitch, two-bladed propellers with Y shank aluminum hubs, issued 12/10/89.

NAKED ENGINES. Mechanics and pilots should be cautious about test running engine for prolonged periods with the cowling removed. The cowling functions as part of the engine cooling design by directing air through the engine cooling fins. With the cowling removed, the engine may be safely operated for periods of approximately five minutes or less; high power uses should not be attempted. With the cowling on, high power runs, except for very short duration, could lead to excessive engine heating and internal damage.

Weather at Your Fingertips

Direct Computer Access to FAA's Information Network

Meeting the "unmet demand" for weather information has been a long time concern of FAA's Air Traffic Service. The unmet demand refers to flights by pilots who proceed without getting an adequate preflight briefing, apparently because they find it inconvenient to do so. The inconvenience may be a matter of waiting in line or on the telephone for a live briefer, or of not being able to tailor the briefing to a specific desire, or of failure to fully understand or remember correctly all the information received.

Accidents attributed to insufficient weather briefing annually account for about one-third of general aviation mishaps, and are usually the highest cause of fatal injuries. In calender year 1987, the National Transportation Safety Board reported that approximately one out of every two weather-related accidents involved a pilot who had failed to obtain a weather briefing.

No one can say for certain how many of the weather-related accidents are a direct result of unmet demand for weather information, but it is believed to be significant. So much so that FAA is putting the finishing touches on DUATS, another automated briefing system for pilots which will serve as an alternate to the Automated Flight Service Station system that was activated seven years ago. What distinguishes the new DUATS (Direct User Access Terminal System) from the AFSS is that with the latter the briefing is given orally, via a telephone, whereas with DUATS it is presented *visually* (and retrievably) with hard copy available if desired.

The key component in DUATS is the personnel computer, by means of which a pilot, at home or in an F.B.O. office, can scan the full range of weather information available for aviation. Using almost any computer and a modem—a device that allows one computer to communicate with another over telephone lines—a pilot can obtain weather information and file a domestic flight plan. The process will accept flight plans for flights operating under Visual Flight Rules (VFR) or Instrument Flight Rules (IFR).

The information is dispatched via NADIN—FAA's National Airspace Data Interchange Network, which has a center at Atlanta, GA and another at Salt Lake City. The pilot's computer does not "talk" directly to NADIN, but to a commercial "vendor," who provides the pilot with a means of accessing the network. This service may be provided by any of three FAA-contracted vendors.

The contracts require vendors to provide the full range of current aviation weather information, including observations, forecasts and PIREPS for all sections of the adjacent 48 states. This type of commercially provided weather information, direct from FAA central collecting points, has been available for more than a decade. It has been used primarily for airlines and business operations willing to pay the cost.

DUATS, however, is paid for by FAA and offered free to all medically current and active U.S. pilots. The free briefing session may be extended up to 20 minutes. (However, the pilot is not limited to any given number of 20-minute sessions per day and can re-access a vendor as often as he/she wishes.)

Free vendor services are limited to weather information and to widely disseminated or published Notices to Airmen (NOTAM's "D") and to NOTAM's "FDC" (published by FAA's Flight Data Center concerning airspace regulations). These are notices concerning the status of navigational facilities, airspace rules and limitations, airports with instrument approved procedures, and certain VFR airports. Information about activity on military training routes, as well as NOTAM's of a local or temporal nature dealing with VFR airport closures, alterations, etc., are usually retained only in the area FSS or AFSS.

However, it is expected that the vendors will also offer, at a fee to the pilot, a variety of additional information and services. This could range from local NOTAM's and weather graphics to fueling and maintenance services, hotel reservations, etc. It is expected that the vendors will compete for their share of the user market by offering an increasing array of these "value added" services.

DUATS will work with a wide range of computers and modems. Any pilot with a computer capable of receiving basic text over the modem can access the system. This includes IBM and compatible models as well as the Apple Macintosh. A 300-baud modem carries the data. The system will accept calls at 300, 1200 or 2400 bytes per second. A 24-hour HELP line is available. Entering a given symbol at any prompt will also summon help.

The pilot must have or acquire appropriate computer communications software to transmit and receive data by modem. At least one vendor is offering free computer software to pilots as an incentive for using its service.

Each vendor provides a toll-free telephone number. "We have plenty of incoming lines now," the manager of one system said, "and will be delighted if we capture enough of the business to add many more lines."

After a pilot connects with the system, the menu-driven software leads him through the program in user-friendly, easy-to-understand steps. For example, on the initial log-on, the pilot may register, using his name and FAA pilot certificate number, which will be verified through the pilot's records at the FAA Aeronautical Center. Only pilots holding current medical certificates will have access.

First time users will need to obtain a password and an access code, which is accomplished by following the initial prompt. Your status as an active pilot will first be verified by the computer, and thereafter all you need to access the system via this vendor will be your password (which you formulate) and your assigned code.

The system will also question you about the computer you are using (characters per line and lines per page). If you intend to file a flight plan, your aircraft N-number must also be given.

The free service will terminate automatically when you have used up 20 minutes of FAA-paid time. However, any time consumed in providing you with value added services will not count against your free time. There is no limit to the number of times you can initiate the FAA service.

DUAT MAIN MENU (Typical)

Sub Menus:

Weather Briefing	1
Flight Plan Processing	2
Encode Location	3
Decode Location ID	4
Value Added Services	5
Exit DUAT System	X

The Weather Briefing Sub Menu has options (1 & 2) which are used to retrieve weather products along a route of flight. The next two options (3 & 4) are used to retrieve weather products available at or near a specific location. The last weather option (5) allows you to request specific weather products from specified weather reporting locations.

WEATHER BRIEFING SUB MENU (Example)

Route Briefing	1
Selected Route Weather	2
Local Briefing	3
Selected Local Weather	4
Selected Weather Products	5
Return to Main Menu	M

The DUAT system will provide a Standard Briefing each time you ask for a Route Briefing or a Local Briefing. A Standard Briefing includes Area Forecasts, Severe Weather Warnings, SIGMETS, AIRMETS, Tropical Depression and Hurricane Advisory Alert messages, Surface Weather Observations, Terminal Forecasts, Pilot Reports, Winds Aloft Forecasts, Radar Reports and NOTAMS.

The Selected Route Briefing and the Selected Local Weather allows you to request an Abbreviated Briefing, for just those points where you desire the weather products to be displayed. In addition to the weather products that you select, the DUAT system will provide you with information indicating hazardous or adverse conditions.

For any standard route briefing, the DUAT system needs to know your departure point, departure time, altitude, destination, route of flight, and estimated time enroute. There are two ways the DUAT system can get this information.

First, you may wish to enter all of this information yourself (Prompt for Input). Your second option is to let the DUAT system use any information that you have entered during your transaction. That data may be stored as "Temporary Data". If you use Temporary Data the system will make sure the information is correctly stated. If it is incorrect the system will prompt you to reenter that item. If you chose Selected Route Briefing, the DUAT system will display a list of the weather report types you may wish to see.

SELECTABLE WEATHER REPORTS

D	
WW	- SEVERE WEATHER WARNINGS (includes AWW< WW-A)
WS	- SIGMETS (includes WWS - URGENT SIGMETS)
WST	- CONVECTIVE SIGMETS
WA	- AIRMETS
WH	- HURRICANE ADVISORIES
AC	- SEVERE WEATHER OUTLOOK
CWA	- CENTER WEATHER ADVISORIES
FA	- AREA FORECASTS
SA	- SURFACE WEATHER OBSERVATIONS (includes SA, SP, RS, USP, SW)
FT	- TERMINAL FORECASTS
UA	- PILOT REPORTS
FD	- WINDS ALOFT FORECASTS
NO	- NOTAM D'S
FDC	- FLIGHT DATA CENTER NOTAMS
SD	- RADAR REPORTS
WT	- WEATHER TRENDS (3-HOURLY SURFACE OBSERVATIONS)

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When you are ready to file a flight plan, (Sub Menu 2),DUATS will, again, utilize "Temporary Data" already elicited when you were prompted for weather information. Or, at your option you may provide new data for each of the "fields," or space blocks, in the flight plan form. The system will then display the entire flight plan and will enable you to make any changes or corrections you desire—by entering the block number and the data.

```
FLIGHT PLAN PROCESSING SUB MENU 2

File a new Flight Plan..... 1
Amend a previous Flight Plan..... 2
Cancel a Flight Plan..... 3
Return to Main Menu..... M
```

You will be able to amend or cancel a flight plan you have filed with DUATS up till the time that it is forwarded to a FSS (if it is VFR) or to a center, if it is IFR. After the plan has been forwarded, DUATS can only inform you as to which facility it has been sent. You will have to contact them on your own.

ENCODE FUNCTION

This function is offered to help you acquire the location identifier abbreviation for a given airport. At the prompt you simply enter the name of the town located near to the airport—also the state, if known. DUATS will display all the names of airports in the vicinity, with their identifier. Also, associated NAVAID's, weather services and other aviation facilities will be shown.

In the first example shown here, the pilot has entered PHILI, PA (the entry is limited to nine slots, in this system). The system recognizes and displays 1N3 Philipsburg, PA, which is the identifier for Albert Airport. Also shown is PSB Midstate, the identifier for the second airport at Philipsburg. Midstate Airport is shown to have VORTAC and weather reporting.

In the second example, only the airport name, Ferguson is entered. The computer searches and locates three airports, in three separate states, beginning with this word. Each is displayed, together with its identifier and associated NAVAID and other services, if any.

```
ENCODE FUNCTION (SUB MENU 3)

  Enter Location, State ..... ? PHILI, PA
IDENT, CITY, STATE
  AIRPORT/NAVAID/WX RPT
  1N3 PHILIPSBURG, PA
                                    ALBERT//
  PSB PHILIPSBURG, PA
                          MID-STATE/VORTAC/WX

  Enter Location, State ..... ? FERGUSON
IDENT, CITY, STATE
  AIRPORT/NAVAID/WX RPT
  82J PENSACOLA, FL
                                  FERGUSON//
  12MO WINDSOR, MO
                             FERGUSON FARMS//
  TN09 PHILADELPHIA, TN
                    FERGUSON'S FLYING CIRCUS//
```

DECODING (SUB MENU 4)

This function will spell out for you in plain English the names represented by identifier symbols of airports and various aviation services. In the example for ACY, you are shown that the airport is Atlantic City International, with an FSS at Millville, a Center at Washington DC, a VORTAC associated with the FSS and a weather service at Atlantic City Airport.

```
Location Identifier (s) ..... ? ACY
  IDENT : ACY AIRPORT : ATLANTIC CITY
INTERNATION, ATLANTIC CITY, NJ
    FSS : MIV ARTCC : WASHINGTON, DC
NAVIDENT: ACY NAVNAME:
ATLANTIC CITY, NJ
    FSS : MIV NAVTYPE : VORTAC
WX IDENT: ACY ATLANTIC CITY, NJ
```

Similarly, the second decode example translates to Wittman Field, Oshkosh, WI, with an FSS at Green Bay, Center at Chicago, etc.

```
IDENT : OSH AIRPORT : WITTMAN FIELD OSHKOSH, WI
    FSS : GRB ARTCC : CHICAGO
NAVIDENT : OSH NAVNAME : OSHKOSH, OSHKOSH, WI
    FSS : GRB NAVTYPE : VORTAC
```

The final SUB MENU will be the (optional) "value added" services, which will vary from one vendor to another, and will be charged directly to the pilot. These may include color weather graphics, car/hotel reservations, flight log, expanded weather products, route optimization, special use airspace, aviation bulletin board, fuel and maintenance availability, etc.

For additional information and a description of added services, contact the DUAT vendors at these addresses.

Contel Federal Systems
Government Networks Group
15000 Conference Center Drive
P.O. Box 10814
Chantilly, VA 22021
Telephone: (service and assistance) 1-800-345-DUAT

Data Transformation Corporation
559 Greentree Road
Turnersville, NJ 08012
Telephone: (service) 1-800-CHK-DUAT
(assistance) 1-800-AID-DUAT

Lockheed DataPlan, Incorporated
90 Albright Way
Los Gatos, CA 95030
Telephone: (service) 1-800-767-7000
(assistance) 1-800-767-DUAT

NOTE: All three vendors expect to be open for business by the end of December 1989. Check with the vendor or a FSS for actual date when service begins.

Pilots becoming aware of the new DUAT service have wondered how it will affect the FAA program to consolidate and automate flight service stations. Is it a competitive, privatized system? Will FSS consolidation be put on hold? Does the agency intend to do away with its time-honored flight service station specialists?

These concerns are groundless. DUATS was not designed to replace the FSS, but to provide pilots with the alternative of obtaining weather and other flight information directly, on their own responsibility. It is also designed for pilots who feel at home with computers, who are familiar with weather jargon and abbreviations, and who want their information imprinted, so that it can be taken with them in their flight bag and reviewed as needed.

FSS briefings (automated and live, as needed), on the other hand, may be better suited to pilots, who find the universally available telephone access more convenient and who often seek

(continued on back cover)

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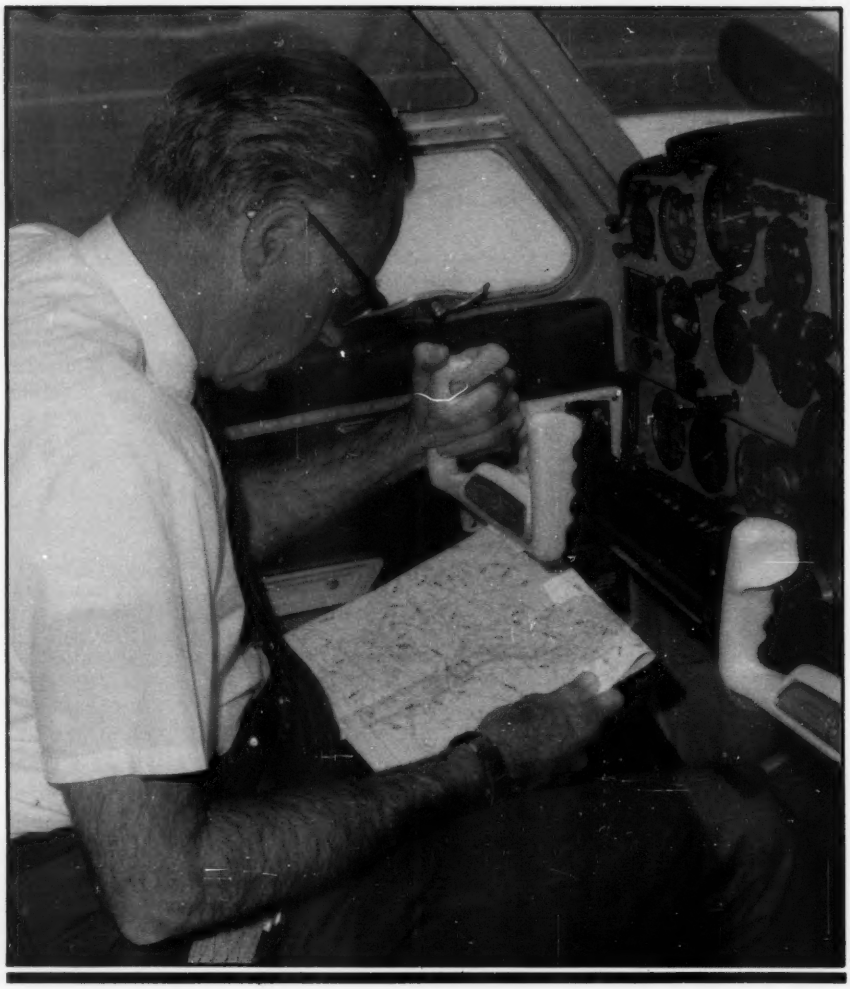
Operating Rules Revised



The year 1990 will be a milestone for many reasons. It marks the beginning of the last decade in this century and the beginning of a new era in aviation. On August 18 (1990) the revised General Operating and Flight Rules will go into effect—the first major realignment of Federal Aviation Regulation Part 91 since it was codified in its present form in 1963.

Why the need for a revision? When the General Flight Operating Rules were codified into FAR Part 91 from the Civil Aviation Regulations, it was based on the technology of the day. In order to allow room for future changes the rule was divided into subparts with only the odd numbers used. However, as the next decades brought rapidly changing aviation technology, amendments to Part 91 reflecting these changes quickly filled many of the empty spaces. In order to keep information within its related area, sections were repetitively subdivided, sometimes to the point of confusion.

A 1978 petition from the Aircraft Owners and Operators Association requested that FAR Part 91 be revised to make it simpler with relocation of many rules in a manner that would enable pilots to find them without difficulty. It was pointed out that the search for a particular rule could be very time-consuming, as it had not been possible to locate some rules near related information. Others were so complicated they had to be interpreted by an aviation lawyer. For the sake of aviation safety a realignment was believed imperative.

Since that time the rule has been revised and submitted for public comment several times, until it was refined to a final version which was signed into law by FAA Administrator James B. Busey on 8/7/89. The format is similar to the original. All the even numbers (save one) are intentionally left blank for future expansion. However, there are now 10 subparts instead of five. Subparts A through E pertain mostly to VFR pilots flying small reciprocating engine airplanes. Subparts F through J apply primarily to operators of larger aircraft.

Operators and flight schools may use the cross reference (on the following pages) until their next printing cycle, as most sections of the amendment will not go in effect until August 18, 1990. The only exception is §91.203(a)(2) which became effective September 18, 1989, but retains the old number—§91.27(a)(2)—until August 18, 1990.

The Part 91 amendment also contains four substantive changes:

(1) FAR §91.117 allows reciprocating-powered aircraft to be operated at 200 knots in an airport traffic area.

(2) FAR §91.135 allows operators desiring authorizations to deviate from positive control area and route segment requirements to utilize a 48-hour oral notification system.

(3) FAR §91.409 allows operators of turbine-powered rotorcraft to use an alternate inspection program, such as an FAA-approved inspection program.

(4) FAR §91.205, 91.509, and 91.511 define "shore" as it is used in these sections to exclude tidal flats.

The one immediately effective change, §91.27(a)(2) which becomes §91.203(a)(2), concerns the operation of an aircraft outside the U.S without an original certificate. Only a telex copy of the Certificate of Aircraft Registration may be used as a temporary certificate. (The telephone number for the Aircraft Registry given in our July/August issue is no longer correct. It is now 405-680-3116.)

Publications affected by this amendment may be revised during their normal publication cycle, even if this falls after the amendment's effective date. The only exceptions to this are those publications and procedures that are affected by the four rule changes mentioned and FAR §91.203 (a)(2). In this case, the publication revisions must be made by the effective date of each section.

To facilitate understanding the many section changes, we have devised a cross reference of old and new numbers which may be detached from the magazine. This handy guide should help you to find your way in the revised Part 91. ➔

Comparison of Current Part 91 and Revised Part 91

MATERIAL IN OLD SECTIONS	MOVES TO NEW SECTIONS	OLD SECTION NUMBER NOW COVERS
SUBPART A - General		**SUBPART A - GENERAL**
§91.1 Applicability	§91.1 and §91.703	§91.1 Applicability
§91.2 Certificate of authorization for certain Category II operations	§91.193	Not in use
§91.3 Responsibility & authority of the pilot in command	Unchanged	Unchanged
§91.4 Pilot in command of aircraft requiring more than one pilot	§91.5	Not in use
§91.5 Preflight Action	§91.103	§91.5 Pilot in command of aircraft requiring more than one required pilot
§91.6 Category II and III operations: General operating rules	§91.189	Not in use
§91.7 Flight crewmembers at stations	§91.105	§91.7 Civil aircraft airworthiness
§91.8 Prohibition against interference with crewmembers	§91.11	Not in use
§91.9 Careless or reckless operation	§91.13	§91.9 Civil aircraft flight manual, marking, and placard requirements
§91.10 Careless or reckless operation other than for the purpose of air navigation	§91.13	Not in use
§91.11 Alcohol and drugs	§91.17	§91.11 Prohibition against interference with crewmembers
§91.12 Carriage of narcotic drug, marihuana, depressant or stimulant drugs or substances	§91.19	Not in use
§91.13 Dropping objects	§91.15	§91.13 Careless and reckless operation
§91.14 Use of safety belts and shoulder harnesses	§91.107	Not in use
§91.15 Parachutes and parachuting	§91.307	§91.15 Dropping objects
§91.17 Towing: Gliders	§91.309	§91.17 Alcohol and drugs
§91.18 Towing: Other than under §91.17	§91.311	Not in use
§91.19 Portable electronic devices	§91.21	§91.19 Carriage of narcotic drugs, marihuana, depressant or stimulant drugs or substances
§91.20 Operations within the North Atlantic Minimum Navigation Performance Specifications Airspace	§91.705	Not in use
§91.21 Flight instruction: Simulated instrument flight and certain flight tests	§91.109	§91.21 Portable electronic devices
§91.22 Fuel requirements for flight under VFR	§91.151	Not in use
§91.23 Fuel requirements flight in IFR conditions	§91.167	§91.23 Truth in leasing for clause requirement in leases and conditional sales contracts
§91.24 ATC transponder and altitude reporting equipment use	§91.215	Not in use
§91.25 VOR equipment check IFR operations	§91.171	§91.25 Aviation Safety for Reporting Program: Prohibition against use of reports for enforcement purposes
§91.26 Traffic alert and collision avoidance system equipment and use	§91.221	91.611Not in use
§91.27 Civil aircraft: Certifications required	§91.203	§91.27-91.99 Reserved
§91.28 Special flight authorizations for foreign civil aircraft	§91.715	
§91.29 Civil aircraft airworthiness	§91.7	
§91.30 Inoperable instruments and equipment for multiengine aircraft	§91.213	
§91.31 Civil aircraft flight manual. marking, and placard requirements	§91.9	
§91.32 Supplemental oxygen	§91.211	
§91.33 Powered civil aircraft with standard category U.S. airworthiness certificates: Instrument and equipment requirements	§91.205	
§91.34 Category II manual	§91.191	
§91.35 Flight recorders and cockpit voice recorders	§91.609	
§91.36 Data correspondence between automatically reported pressure altitude data and the pilot's altitude reference	§91.217	
§91.37 Transport category civil airplane weight limitations	§91.605	
§91.38 Increased maximum certificated weights for certain airplanes operating in Alaska	§91.323	
§91.39 Restricted category civil aircraft: Operating limitations	§91.313	
§91.40 Limited category civil aircraft: Operating limitations	§91.315	
§91.41 Provisionally certificated civil aircraft: Operation limitation	§91.317	
§91.42 Aircraft having experimental certificates: Operating limitations	§91.319	
§91.43 Special rules for foreign civil aircraft	§91.711	
§91.45 Authorization for ferry flights with one engine inoperative	§91.611	

Part 91 Revisions Continued

MATERIAL IN OLD SECTION	MOVES TO NEW SECTION	OLD SECTION NUMBER NOW COVERS
§91.47 Emergency exits for airplanes carrying passengers for hire	§91.607	Reserved
§91.49 Aural speed warning device	§91.603	§91,27-91.99 Reserved
§91.50 Reserved	Deleted	
§91.51 Altitude alerting system or device: turbojet powered civil airplanes	§91.219	
§91.52 Emergency locator transmitter	§91.207	
§91.53 Reserved	Deleted	
§91.54 Truth in leasing clause requirement in leases and conditional sales contracts	§91.23	
§91.55 Civil aircraft sonic boom	§91.817	
§91.56 Agricultural and firefighting airplanes: noise operating limitations	§91.815	
§91.57 Aviation Safety Reporting Program: Prohibition against using reports for enforcement purposes	§91.25	
§91.58 Material for compartment interiors	§91.613	
§91.59 Carriage of candidates in Federal elections	§91.321	
SUBPART B - Flight Rules (General)		
§91.61 Applicability	§91.101	
§91.63 Waivers	§91.903	
§91.65 Operating near other aircraft	§91.111 and §91.123	
§91.67 Right of way rules; except water operations	§91.113	
§91.69 Right of way rules; water operations	§91.115	
§91.70 Aircraft speed	§91.117	
§91.71 Acrobatic flight	§91.303	
§91.73 Aircraft lights	§91.209	
§91.75 Compliance with ATC clearances and instructions	§91.123	
§91.77 ATC light signals	§91.125	
§91.79 Minimum safe altitude:	§91.119	
§91.81 Altimeter settings	§91.121	
§91.83 Flight plan: Information required	§91.153 and §91.169	
§91.84 Flights between Mexico or Canada and the U.S.	§91.707	
§91.85 Operating on or in the vicinity of an airport: General rules	§91.127	
§91.87 Operation at airports with operating control towers	§91.129	
§91.88 Airport Radar Service Areas	§91.130	
§91.89 Operation at airports without control towers	§91.127	Reserved
§91.90 Terminal Control Areas	§91.131	§91.27-91.99 Reserved
§91.91 Temporary flight restrictions	§91.137	
§91.93 Flight test areas	§91.305	
§91.95 Restricted and prohibited areas	§91.133	
§91.97 Positive control areas and route segments	§91.135	
§91.100 Emergency air traffic rules	§91.139	Not in use
§91.101 Operations to Cuba	§91.709	**SUBPART B - Flight Rules** §91.101 Applicability
§91.102 Flight limitations in the proximity of space flight recovery operations	§91.143	Not in use
§91.103 Operation of civil aircraft of Cuban registry	§91.713	§91.103 Preflight action
§91.104 Flight restrictions in the proximity of the Presidential and other parties	§91.141	Not in use
(Visual Flight Rules) §91.105 Basic VFR weather minimums	§91.155	§91.105 Flight crewmembers at stations
§91.107 Special VFR weather minimums	§91.157	§91.107 Use of safety belts
§91.109 VFR cruising altitude or flight level	§91.159	§91.109 Flight instruction: Simulated instrument flight and certain flight tests
§91.111 None		§91.111 Operating near other aircraft
§91.113 none		§91.113 Right of way rules; except water operations
(Instrument Flight Rules) §91.115 ATC clearance and flight plan required	§91.173	§91.115 Right of way rules; water operations
§91.116 Takeoff and landing under IFR	§91.175	Not in use
§91.117 Reserved	Deleted	§91.117 Aircraft speed
§91.119 Minimum altitudes operations	§91.177	§91.119 Minimum safe for IFR altitudes: General
§91.121 IFR cruising altitude or flight level	§91.179	§91.121 Altimeter setting
§91.123 Course to be flown	§91.181	§91.123 Compliance with ATC clearance and instructions
§91.125 IFR radio communications	§91.183	§91.125 ATC light signals
§91.127 IFR operations: two way radio communications failure	§91.185	§91.127 Operating on or in the vicinity of an airport: General rules
§91.129 Operation under IFR in controlled airspace: Malfunction reports	§91.187	§91.129 Operations at airports with operating control towers
§91.131-91.159 Previously not in use		§91.130 Airport Radar Service Areas
		§91.131 Terminal Control Areas
		§91.135 Positive control areas and route segments

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MATERIAL IN OLD SECTION	MOVES TO NEW SECTION	OLD SECTION NUMBER NOW COVERS
Previously not in use		§91.137 Temporary flight restrictions
		§91.139 Emergency air traffic rules
		§91.141 Flight restrictions in the proximity of the Presidential and other parties
		§91.143 Flight restrictions in the proximity of space flight operations
		§91.145-91.149 Reserved
		(Visual Flight Rules) §91.151 Fuel requirements for flight in VFR conditions
		§91.153 VFR flight plan: Information required
		§91.155 Basic VFR weather minimums
		§91.157 Special VFR weather minimums
		§91.159 VFR cruising altitude or flight level
SUBPART C - Maintenance, Preventive Maintenance, and Alterations		§91.161-91.165 Reserved
§91.161 Applicability	§91.401	
§91.163 General	§91.403	
§91.165 Maintenance required	§91.405	
§91.167 Operation after maintenance, preventive maintenance, rebuilding, or alteration	§91.407	**(Instrument Flight Rules)** §91.167 Fuel requirements for flight in IFR conditions
§91.169 Inspections	§91.409	§91.169 IFR flight plans: Information required
§91.170 Changes to aircraft inspection programs	§91.415	Not in use
§91.171 Altimeter system & altitude reporting equipment tests and inspections	§91.411	§91.171 VOR equipment check for IFR operations
§91.172 ATC transponder tests and inspections	§91.413	Not in use
§91.173 Maintenance records	§91.417	§91.173 ATC clearance and flight plan required
§91.174 Transfer of maintenance records	§91.419	Not in use
§91.175 Rebuilt engine maintenance records	§91.421	§91.175 Takeoff and landing under IFR
§91.177-91.179 Previously not in use		§91.177 Minimum altitudes for IFR operation
		§91.179 IFR cruising altitude or flight level
SUBPART D - Large and Turbine-powered Multiengine Airplanes		§91.181 Course to be flown
§91.181 Applicability	§91.501	
§91.183 Flying equipment operating information	§91.503	§91.183 IFR radio and communications
§91.185 Familiarity with operating limitations and emergency equipment	§91.505	§91.185 IFR operations: Two way radio communications failure
§91.187 Equipment requirements: Over the top or night VFR operations	§91.507	§91.187 Operation under IFR in controlled airspace: Malfunction reports
§91.189 Survival equipment for overwater operations	§91.509	§91.189 Category II and III operations: General operating rules
§91.191 Radio equipment for overwater operations	§91.511	§91.191 Category II manual
§91.193 Emergency equipment	§91.513	§91.193 Certificate of authorization for certain Category II operations
§91.195 Flight altitude rules	§91.515	§91.195-91.199. Reserved
§91.197 Smoking and safety belt signs	§91.517	
§91.199 Passenger briefing	§91.519	
§91.200 Shoulder harness	§91.521	Not in use
§91.201 Carry-on baggage	§91.523	**SUBPART C - Equipment Instrument, and Certificate Requirements** §91.201 Reserved
§91.203 Carriage of cargo	§91.525	§91.203 Civil aircraft: Certifications required
§91.205 Transport category airplane weight limitations	Deleted	§91.205 Powered civil aircraft with standard category U.S. airworthiness certificates: Instrument and equipment requirements
§91.207 None	Deleted	§91.207 Emergency locator transmitters
§91.209 Operating in icing	§91.527	§91.209 Aircraft lights
§91.211 Flight engineer requirements	§91.529	§91.211 Supplemental oxygen
§91.213 Second-in-command requirements	§91.531	§91.213 Inoperative instruments and equipment
§91.215 Flight attendant	§91.533	§91.215 ATC transponder and altitude reporting equipment and use
§91.217-91.299 Previously not in use		§91.217 Data correspondence between automatically reported pressure altitude data and the pilot's altitude reference
		§91.219 Altitude alerting system or device: turbo jet-powered civil airplanes
		§91.221 Traffic alert and collision avoidance system equipment and use
		§91.223-91.299 Reserved
SUBPART E - Operating Noise Limits		**SUBPART D - Special Flight Operations**
§91.301 Applicability: Relation to Part 36	§91.801	§91.301 Reserved
§91.302 Part 125 operators: Designation of applicable regulations	§91.803	Not in use
§91.303 Final compliance: Subsonic airplanes	§91.805	§91.303 Aerobatic flight

Part 91 Revisions Continued

MATERIAL IN OLD SECTIONS	MOVES TO NEW SECTIONS	OLD SECTION NUMBER NOW COVERS
§91.305 Phased compliance under Parts 121 and 135: Subsonic airplanes	§91.807	§91.305 Flight test areas
§91.306 Replacement airplanes	§91.809	Not in use
§91.307 Service to small communities exemption: two-engine, subsonic airplanes	§91.811	§91.307 Parachutes and parachuting
§91.308 Compliance plans and status: U.S. operators of subsonic airplanes	§91.813	Not in use
§91.309 Civil supersonic airplanes that do not comply with Part 36	§91.819	§91.309 Towing: Gliders
§91.311 Civil supersonic airplanes: Noise limits	§91.821	§91.311 Towing: Other than §91.309
Appendix A - Category II operations: Manual, instruments, equipment and maintenance		Appendix A - Category II operations: Manual, instruments, equipment, and maintenance
Appendix B - Authorization to exceed Mach 1 (§91.55)		Appendix B - Authorization to exceed Mach 1 (§91.817)
Appendix C - Operations in North Atlantic (NAT) Minimum Navigation Performance Specifications (MNPS) Airspace		Appendix C - Operations in North Atlantic (NAT) Minimum Navigation Performance Specifications (MNPS) Airspace
END OF OLD PART 91		

NEW SECTION NUMBERS IN PART 91

§91.313 Restricted category civil aircraft: Operating limitations
§91.315 Limited category civil aircraft: Operating limitations
§91.317 Provisionally certified civil aircraft: Operating limitations
§91.319 Aircraft having experimental certificates: Operating limitations
§91.321 Carriage of candidates in Federal elections
§91.323 Increased maximum certificated weights for certain airplanes operated in Alaska
§91.325-91.399 Reserved
SUBPART E - Maintenance, Preventive Maintenance, and Alterations
§91.401 Applicability
§91.403 General
§91.405 Maintenance required
§91.407 Operation after maintenance, preventive maintenance, rebuilding, or alteration
§91.409 Inspections
§91.411 Altimeter system and altitude reporting equipment tests and inspections
§91.413 ATC transponder tests and inspections
§91.415 Changes to aircraft inspection programs
§91.417 Maintenance records
§91.419 Transfer of maintenance records
§91.421 Rebuilt engine maintenance records
§91.423-91.499 Reserved
SUBPART F - Large and Turbine-Powered Multiengine Airplanes
§91.501 Applicability
§91.503 Flying equipment and operating information
§91.505 Familiarity with operating limitations
§91.507 Equipment requirements: Over the top or night VFR operations
§91.509 Survival equipment for overwater operations
§91.511 Radio equipment for over water operations
§91.513 Emergency equipment
§91.515 Flight altitude rules
§91.517 Smoking and safety belts
§91.519 Passenger briefing
§91.521 Shoulder harness
§91.523 Carry-on baggage
§91.525 Carriage of cargo
§91.527 Operating in icing conditions
§91.529 Flight engineer requirements
§91.531 Second-in-command requirements
§91.533 Flight attendant requirements
§91.535-91.599 Reserved
SUBPART G - Additional Equipment and Operating Requirements for Large and Transport Category Aircraft
§91.601 Applicability
§91.603 Aural speed warning device
§91.605 Transport category civil airplane weight limitations
§91.607 Emergency exits for airplanes carrying passengers for hire
§91.609 Flight recorders and cockpit voice recorders
§91.611 Authorization for ferry flight with one engine inoperative
§91.613 Materials for compartment interiors
§91.615-91.699 Reserved
SUBPART H - Foreign Aircraft Operations and Operations of U.S. Registered Civil Aircraft Outside of the United States
§91.701 Applicability
§91.703 Operations of civil aircraft of U.S. registry outside of the U.S.
§91.705 Operations within North Atlantic minimum navigation performance specification airspace
§91.707 Flights between Mexico or Canada and the U.S.
§91.709 Operations to Cuba
§91.711 Special rules for foreign civil aircraft
§91.713 Operation of civil aircraft of Cuban registry
§91.715 Special flight authorization for foreign civil aircraft
§91.717-91.799 Reserved
SUBPART I - Operating Noise Limits
§91.801 Applicability : Relation to Part 36
§91.803 Part 125 Operators: Designation of applicable regulations
§91.805 Final compliance: Subsonic airplanes
§91.807 Phased compliance under Parts 121, 125, and 135: Subsonic airplanes
§91.809 Replacement airplanes
§91.811 Service to small communities: Two-engine subsonic airplanes
§91.813 Compliance plans and status: U.S. operations of subsonic airplanes
§91.815 Agricultural and firefighting airplanes: Noise operating limitations
§91.817 Civil aircraft sonic boom
§91.819 Civil supersonic airplanes that do not comply with Part 36
§91.821 Civil supersonic airplanes: Noise limits
§91.823-91.899 Reserved
SUBPART J - Waivers
§91.901 Applicability
§91.903 Policy and procedures
§91.905 List of rules subject to waiver
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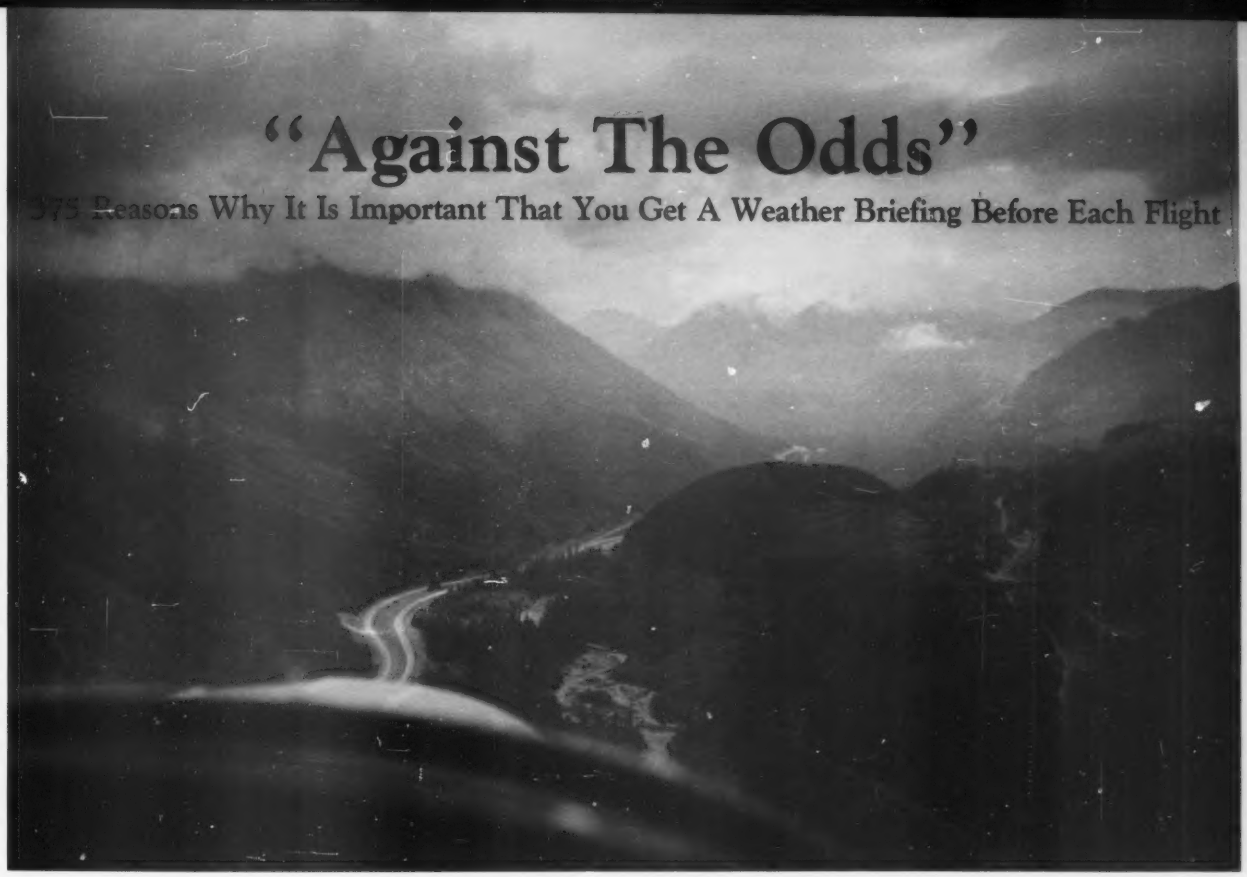
Appendix D - Airports/locations where the transponder requirements of §91.215(b)(5)(ii) apply
Appendix E - Airplane flight recorder specifications
Appendix F - Helicopter flight recorder specifications
END OF THE NEW PART 91

"Against The Odds"

375 Reasons Why It Is Important That You Get A Weather Briefing Before Each Flight



In 1987, the latest year for which we have complete data, the National Transportation Safety Board reported 612 general aviation accidents in which weather was a cause or related factor. In 360 of these accidents (which included 123 fatalities and 75 serious injuries) investigators found no record of the pilot having obtained a weather briefing.

The pilots involved were by no means ignorant of the available weather briefing sources. Victims included airline captains, flight instructors, and seasoned pilots with a variety of ratings including instrument and multi-engine ratings. The most common scenario was not a crosscountry flight—many of the accidents took place in the departure airport locality. In addition to poor visibility and low ceilings, the following weather conditions were mentioned frequently by NTSB investigators:

- Unfavorable wind speed and direction
- Turbulence, gusty winds
- Moisture and temperature conducive to carburetor icing and for water condensation in fuel
- Higher than anticipated density altitude
- Obscuration from blowing dust

One fatal accident involved an airline captain with thousands of hours of experience in Boeing 727's, in all kinds of weather. However, on January 18, 1987, when he attempted to depart from Coaldale, CO, in the Rocky Mountains, flying a Cessna 210, he experienced a structural failure that resulted in loss of a five foot wing section, followed by a non-survivable crash. The weather was VFR, but mooderate to severe turbulence had been forecast.

Obviously, weather hazards must always be studied with regard to the structural strength of the aircraft being currently flown.

Another accident, fatal to two, took place in the Cascade Mountains of southern Washington state. In this case, two flight instructors departed Ellensburg, WA, for a local flight in a Cessna 150 on January 8, 1987. VFR conditions prevailed over the lower terrain near Ellensburg, but a "scattered to overcast" cloud layer was reported at 5,000 feet MSL. Evidence indicated that a course reversal was being attempted in the 150 when it impacted trees at approximately 4,425 feet.

Near Pleasantville, TN the pilot of a *Universal Globe* made a low pass over his home, then pulled up sharply ahead, while flying *downwind*. As the climb peaked, the aircraft nosed over, descended out of control and struck a nearby house, with fatal consequences to the pilot.

Another low-flying accident occurred at Imperial, TX, when the pilot of a Piper 23 with five passengers on board elected to make a low pass over a reservoir. Over the water the aircraft, being flown with a following wind, appeared to lose lift, descended and struck the water, resulting in one passenger fatality. High density altitude conditions had been reported.

At Mandan, ND the pilot of a recently purchased Boeing *Stearman* elected to make an en route stop in the aircraft he was ferrying to his home field in Ohio. According to the NTSB report the pilot was not aware of and/or did not correct for the gusty wind at Mandan, which lifted the tail section and resulted in a grown loop. There was substantial damage to the wing, which struck the runway, but fortunately no injuries.

In all of these unfortunate accidents, summarized from the accident files of the National Transportation Safety Board for 1987, there is one common thread: there is no indication that the pilot obtained a weather briefing from an official source, or that he took sufficientiy into account the current observable weather conditions.

The importance of being knowledgeable about the weather, for every flight—long or short—and every phase of flight, cannot be over-emphasized. FAA provided weather briefing sources, like DUATS and the FSS system, hourly broadcasts, etc., offer a wealth of information, but each pilot must get what is needed on his or her own initiative. In some instances the only available local sources will be a UNICOM, an automated weather reporting system, a windsock, or the movement of smoke or trees— but almost anything is better than guessing, or hoping for the best.

As in most gambling, the odds are against the player. ■

HUFFMAN'S PRAIRIE, 1904-05

Two Years That Shaped The World Of Aviation

From KILL DEVIL HILL, by Harry Combs, published by Houghton Mifflin.

The Wright brothers' first four flights in a manned aircraft, which took place on the sandy beaches of Kitty Hawk, NC, on December 17, 1903, marked the historic beginning of the Age of Aviation. The Wright *Flyer*, however, was still a long way from being a controllable aircraft with practical application. The four flights were in effect "extended hops;" the longest hop covered 852 feet, and lasted 59 seconds. The maximum altitude attained was about 10 feet. The *Flyer* carried a single pilot stretched out over a saddle on the lower wing; he rotated the saddle with his hips, thus manipulating the control wires that "warped" the wing tips and moved the rudder. The pilot held on with one hand and with his other handled the control wire for the elevators, located up front. Nevertheless, in all of the early flights the aircraft pitched up and down uncontrollably at times and finally struck the ground nose down, causing severe damage.

Orville himself regarded the 1903 experiments at Kitty Hawk as having merely "... demonstrated the possibility of manned flight with a motor." Although the Wrights were enthused about actually flying, they were well aware that a practical, reliable means of air travel had not yet been produced.

Sensational accounts of these flights, however, spread through the national press like wildfire, leading to highly exaggerated reports on the status of air travel. To set matters straight, when they resumed testing in the spring of 1904, on a prairie near Dayton, the Wrights invited responsible reporters to observe the *Flyer* in action at the 87 acre site known as Huffman's Prairie.

On the first flight, however, an electrical contact point worked loose, so that only three of the four cylinders were firing. Consequently, the machine barely got off the ground before it dropped, striking the wing and breaking several spars on impact in front of a cadre of skeptical newsmen. The flight had already been delayed one day for lack of wind needed for takeoff.

The coverage the reporters provided concerning this unimpressive performance considerably dampened public interest in the Wright brothers.

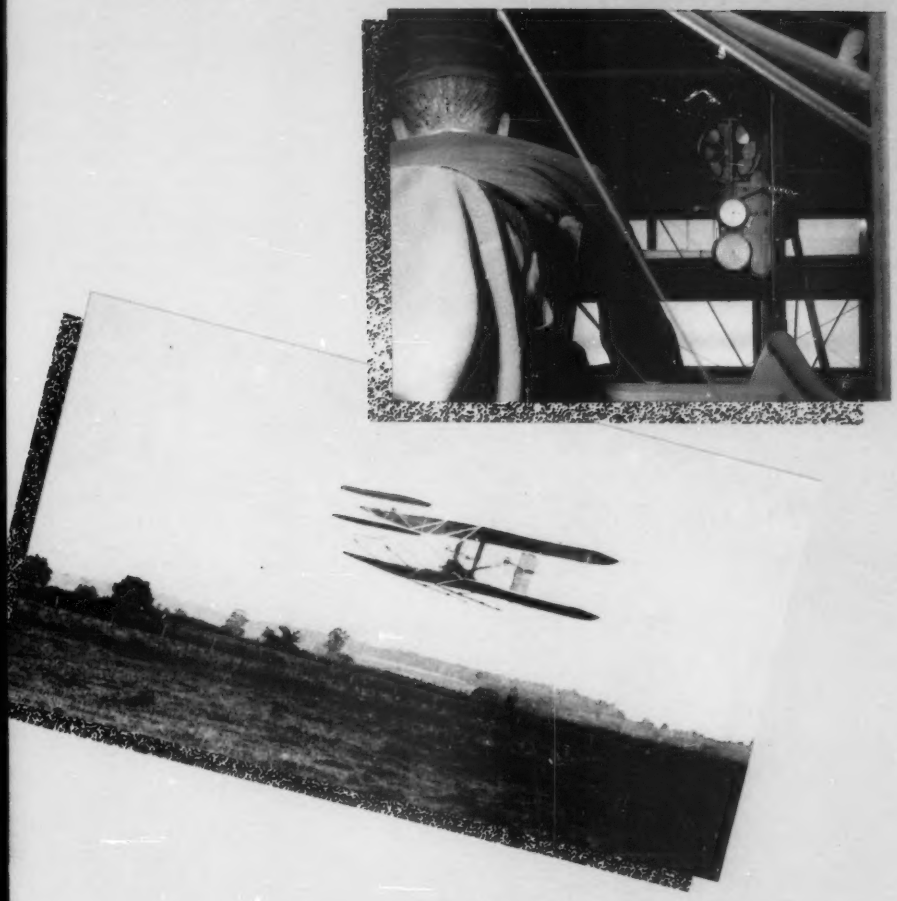
Far from being discouraged, Orville and Wilbur took advantage of their relative obscurity over the next two years to concentrate on solving the design problems made evident at Kitty Hawk and to perfect the art and technique of flying a powered aircraft. Between mid-1904 and the end of 1905, at their base on Huffman's Prairie, they achieved a remarkable success in converting their "flying machine" into an actual prototype of the fully controllable airplane of today.

Orville and Wilbur worked alone for the most part and spent virtually every spare minute they had studying aeronautic information, building and rebuilding airplane components, and discussing problems of flight endlessly with each other. They also flew the *Flyer* on every possible occasion, realizing that only the airplane could teach them how to fly. There were innumerable hard landings (initially they used sleigh-like runners instead of landing wheels) and some damaging crashes that put their lives at risk. Fortunately, neither brother sustained a critical injury.

The primary design changes concerned aircraft stability. As a result of their glider experimentation, Orville and Wilbur decided that a powered airplane should be inherently unstable in flight in order to allow the pilot to control the flight despite changes in wind speed and direction. Consequently, they created pitch instability by locating the center of gravity at a point which allowed the nose to pitch down in the absence of significant wind speed. By locating the dual elevators forward (instead of at the tail, in the conventional manner) they believed that they could overcome any tendency toward an unintentional descent.

However, given the shallow altitude at which the early flights were made, it was difficult and sometimes not possible to avert ground impact whenever the nose pitched down. Consequently, the center of gravity was moved forward, and the airfoil of the elevators was increased. Even so, the Wrights learned, from frequent flying and not infrequent accidents, that whenever the nose dropped down from loss of lift, it was essential to push the nose further down, by means of the elevators, in order to achieve sufficient flying speed before bringing the nose up.

Also contributing to instability was the angle of the wings. Here again the Wrights departed from conventional glider design, which embodied a dihedral (upturned at the tips) wing rigging. The original *Flyer* had anhedral wings (tips turned down). The intention here was to make the aircraft more responsive to pilot control when banking in a turn. Since the *Flyer*'s wingtips could be twisted or "warped" by the pilot, the natural stability of dihedral rigging was no longer considered necessary. Flight experience showed, however, that when exposed to a crosswind the drooping wings had a tendency to produce an uncontrollable spiral. Anhedral rigging was abandoned early in 1904.



On September 20, 1904, the Wrights completed the first 360 degree turn in an airplane. Sustained circling flights of more than five minutes duration were accomplished before the end of the year.

The one remaining significant change was the separation of the interconnecting controls for the (rear mounted) rudder and the wing warping. Initially the Wrights had believed that interconnecting controls were essential to a coordinated turn, but early in the 1905 tests they concluded that independent control of yaw and roll would give them greater ability to prevent overturning or gust-induced spirals.

By the end of the summer of 1905 the Wrights believed they had solved all of their serious problems and developed the appropriate flying technique. The original four cylinder engine which developed 12 hp, was modified to deliver 25 hp at 1,300 rpm. They now had a practical flying machine to offer the world—it was no longer an experiment. They stopped flying and set about the business of selling their product.

As practical men, the Wrights foresaw clearly that the airplane could, and probably would, be first used as a weapon of war. For that reason they offered it first to the U.S. Government—which put the matter in the hands of the War Department. Having been embarrassed previously when they contributed $70,000 to the development of the Langley "Aerodrome," which sank in the Potomac River without ever taking flight, the Department now took a cautious approach. They requested to be shown proof of flight in the form of drawings, tables, performance data, photographs, etc.

The Wright's position was that the airplane itself was all the proof needed. This standoff, once circulated in the Press, provoked a public outcry against the Wright brothers for their so-called secrecy. They were criticized for keeping hidden, for reasons of greed, knowledge about an invention that could benefit all mankind.

In actual fact, the flights at Huffman's Prairie had taken place at an unfenced field surrounded by public roads—there was even an electric trolley line along one side. Spectators had come and gone freely.

Aviation had been taken up by the Wrights in 1899 as a recreation, occupying their spare time. Later it became an overwhelming passion. After the flights at Kitty Hawk, they dissolved their bicycle business in Dayton, in order to spend all of their time at the prairie. They expected to be paid fairly for the airplanes they produced, but they anticipated no reimbursement for any of the development costs—they had kept no record of expenses or hours of labor. Above all, they wanted credit for being the first to fly.

Consequently, when the U.S. Government showed no indication of buying their airplane, they took a demonstration model to Europe, France, Germany, Italy, and Spain. The Wright's intention abroad was to license foreign governments to build the aircraft under their supervision, with the Wrights retaining full patent control.

On December 23, 1907, the U.S. Signal Corps invited bids for construction of an airplane which could carry two seated occupants at a speed of 40 mph and fly for at least 25 miles nonstop. The Corps received offers from 41 interested bidders, but only Orville and Wilbur Wright actually delivered an airplane. The substantial purchase price of $25,000 was augmented by a $5,000 bonus when the airspeed was found to be well above 40 mph.

Following the demonstration flights by Orville at Fort Myers, VA, and some minor modifications, the Wright *Flyer* was accepted and became the first military aircraft. In the following month the U.S. Navy Department issued specifications for a two-place amphibious aircraft that could fly nonstop for 200 miles, or a period of four hours, averaging at least 40 mph.

By the close of 1908, Wilbur, demonstrating the *Flyer* in Europe with a new engine, set a new nonstop record of 77 miles in one hour, 20 minutes, and 23 seconds, winning the Michelin Purse of 20,000 francs. At this date, the longest flight in an airplane of European manufacturing was 17 miles (Henry Farman). There was no question about who was Number One in the sky.

Huffman Prairie became the base of the newly formed Wright Aircraft Company. In addition to building airplanes the Wrights founded a flying school at Huffman's Prairie and opened another in Montgomery, AL. They also did flight demonstration tours around the country which attracted huge crowds. Unfortunately, these later years were somewhat embittered for the Wrights by numerous infringements on their aeronautical patents and seemingly endless court battles—all eventually settled in their favor.

Wilbur died of typhoid fever in 1912, and three years later Orville sold the company, which in time was merged with the Curtiss Aircraft Company. Orville maintained a laboratory in Dayton where he continued to experiment with aviation projects and to contribute to progress in aeronautics. He died in 1948. Today the urban expansion of Dayton has all but obliterated the dusty 87 acre field where the Wright brothers' dream of flight was hammered into reality. ■

BLACK JACK'S NEW SCOUTS. The Curtiss *Jenny* represented the Army Aviation Section in Mexico during General Pershing's 1916 mission to capture Pancho Villa—the first U.S. military use of aviation. It also marked another first—first place for artist James Dietz of Seattle, WA, in the 13th annual EAA Sport Aviation Art Contest. He has won this honor three times.

MANDATORY ANTI-DRUG PROGRAM FOR AIRMEN

Operators of Part 121 aircraft, and Part 135 operators with 51 or more covered employees, are required to begin carrying out their FAA-approved plan for drug testing employees as of December 18, 1989, in accordance with the Anti-drug Program for aviation activities outlined in recent amendments to Parts 121 and 135 of the Federal Aviation Regulations.

Full-time and temporary employees who must be tested include flight crewmembers, flight attendants, flight instructors, ground instructors, flight testing, aircraft dispatchers, maintenance or preventive maintenance personnel, and persons carrying out non-FAA and non-military air traffic duties and aviation security and screening.

The Anti-drug Program spells out procedures for pre-employment, periodic, random, post-accident, reasonable cause, and return-to-duty testing. Both aviation operators and their contractors must establish an overall plan for employee training and testing.

Part 135 operators with 11 to 50 covered employees must begin activating their approved plan no later than February 14, 1990.

Part 135 operators with fewer than 11 employees and all persons in Part 91 general aviation operations for **hire or compensation** must activate their approved drug testing plan by August 13, 1990. This includes persons engaged in:

- Student instruction.
- Nonstop sightseeing flights that begin and end at the same airport and are conducted within a 25-statute mile radius of that airport.
- Ferry or training flights.
- Aerial work operations, including crop dusting, seeding, spraying and bird dispersing; banner towing; aerial photography or survey; firefighting; helicopter operations in construction or repair work (not including transportation to and from operation sites); powerline and pipeline patrol or similar types of aerial patrol approved by FAA.
- Sightseeing flights in hot air balloons.
- Non-stop flights, conducted within a 25-statute mile radius of the airport of takeoff, carrying persons for the purpose of intentional parachute jumping.
- Helicopter flights within a 25-statute mile radius of the airport of takeoff.
- Rotorcraft operations conducted under FAR Part 133 (external loads).
- Federal election campaign operations conducted under FAR §91.59.

In order to minimize the expense of compliance with the anti-drug regulations, small companies or freelance individuals who are affected will be allowed to form a "consortium," or association, which will adopt a common plan in conformance with FAA testing guidelines.

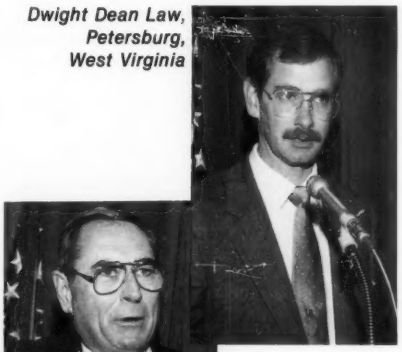
Concerned persons may send for a free copy of the comprehensive manual, "Implementation Guidelines for the FAA Anti-drug Program." Contact the Drug Abatement Branch, AAM-220, FAA, 800 Independence Ave., SW, Washington, DC 20591. Telephone (202) 267-3413.

TOP INSTRUCTOR, TECHNICIAN

As a U.S. Navy veteran with many years of undersea service, John U. Rockcastle of Barrington, IL, is no stranger to hazardous duty. He is also known for the quality of instruction offered to his students and for the community services he performs in an effort to promote aviation. But his ultimate test of courage may have occurred when, as a certificated flight instructor, he took it upon himself to teach his wife to fly. He was cited for courage, both underwater and in the marital arena, by FAA Administrator James Busey during a recent ceremony to honor the outstanding general aviation flight instructor and maintenance technician for 1989.

The award-winning technician is Dwight Dean Law of Petersburg, WV, a former U.S. Army helicopter mechanic of the Vietnam era. He has patented a design for a battery that will automatically disconnect on impact, thereby reducing the hazard of post-crash fires in aircraft.

Rockcastle, Law, and their families were brought to Washington, DC, for the ceremony, at which time they were rewarded by the general aviation industry with several thousand dollars worth of cash, gifts, and aviation equipment.



Dwight Dean Law, Petersburg, West Virginia

John U. Rockcastle, Barrington, Illinois

AIRSPACE RECLASSIFICATION RULE PROPOSAL

A proposed rule would replace the current airspace classifications (TCA's, ARSA's, ATA's, Control Zones's, Transition Areas, etc.) with six categories of airspace designated Class A, B, C, D, E, and G.

This proposal is expected to simplify airspace designations and facilitate pilot association of requirements for varying conditions of flight, and achieve worldwide aviation commonality. Airspace users are invited to send comments on the proposal to FAA, Attention Rules Docket, AGC-10, Docket No. 24456. The address is 800 Independence Ave., SW, Washington, DC 20591. The deadline is April 18, 1990.

A copy of the proposal, "Airspace Reclassification, Notice of Proposed Rulemaking," will be sent free upon request to FAA, Public Inquiry Center. APA-200, 800 Independence Ave., SW, Washington, DC 20591. Phone (202) 267-3484.

An indepth article on this subject is scheduled for the January/February 1990 issue of FAA AVIATION NEWS.

• Weather at CZ Airport

Assume that the official weather observer of a control zone determines that a ceiling of less than 1000 feet exists at the primary airport. Assume also that there lies within the same control zone a satellite airport at which the ceiling is either greater than 1000 feet or does not exist at all.

Is a clearance (SVFR or IFR) required to operate into or out of the satellite airport. In others words, does the 1000 foot ceiling observed at the primary airport "officially" extend throughout the entire control zone, as some local tower facilities and FSDO's have proclaimed?

Disregarding ceiling, if the visibility at the primary airport is less than VFR, but not so at the satellite airport, do similar clearance requirements apply at the satellite airport as for the primary airport? Local interpretation has suggested that a clearance is NOT required in this instance.

David L. Miller
Tujunga, CA

With regard to ceiling, Section 91.105(c) of the Federal Aviation Regulations prohibits operation under VFR (except for Special VFR) beneath the ceiling of a control zone when the ceiling is less than 1,000 feet. For the purpose of this rule, the "ceiling" for the control zone is determined by the reported ceiling at the primary airport regardless of a reported ceiling at a satellite airport.

With regard to *visibility*, however, Section 91.105(d) of the FAR prohibits operations to or from an airport within a control zone under VFR unless the ground visibility *at that airport* is at least 3 statute miles. If ground visibility is not reported at that airport, *flight visibility* during landing, takeoff, or while operating in the traffic pattern must be at least 3 statute miles.

• Pop Goes the Inflatable

As always, I enjoy my copy of FAA Aviation News! On page 11, May/June 89 issue, I read your article on the Goodyear Inflataplane with interest. We military pilots in Korea all thought that "flying back" after you were shot down had a lot of merit. However, it was in 1958, considerably after the Korean War, that Goodyear was demonstrating the inflataplane at Patuxent River Naval Air Test Center, and I was a participant.

While testing for stick force per "G" at altitude, the Goodyear test pilot "bent the fuselage" just a little. This allowed the pusher prop to "tick" the fuselage. The inevitable happened as the air popped out of the balloon and with great aplomb the pilot and the airplane intentionally parted company. The pilot, thanks to his chute, landed without injury. If I remember correctly Don Segner was the project officer, but not the pilot.

Today, you can see the remaining Inflataplane in the NATC Museum. We never could figure how to throw an aerial vulcanized patch on the fuselage before it hit the ground.

Keep up the great work.

Donald D. Engen
Alexandria, VA

• Transponder Testing

I believe there is a mistake in a transponder article entitled, Transponder Altitude Verification *in the September-October issue of FAA Aviation News. There is a statement about a requirement to remove the transponder to be inspected. The transponder does not have to be removed. In fact, in my opinion the most viable test environment for the transponder is* in the aircraft.

This allows a test of the entire system from the antenna to the ident button. Federal Aviation Regulation (FAR) Part 43, Appendix F does provide for a bench check, as an alternate means of compliance, but does not require it.

Alfred Hughes
Lincoln, NE

Correction accepted, with gratitude.

• Second Opinion?

Can a Flight Instructor who has not personally instructed a student authorize that student to make a crosscountry flight, if he finds that the student's preflight planning is adequate for the flight?

Name Withheld

An instructor who has not personally flown with a student pilot may authorize that student to make a single crosscountry flight, provided that:

- the student has received the required cross country flight instruction from a flight instructor; and
- the authorizing instructor reviews the student's preflight preparation and planning, and determines that the student is prepared to complete the flight safely under the known circumstances and conditions.

• To Log or Not to Log

In your July/August 89 issue, your article on student pilot privileges states flatly that a student can never log PIC time in an aircraft.

In your Sept/Oct 1980 issue, you stated that the FAA General Counsel determined that a student could under certain conditions log PIC time. Which is correct?

Name Withheld

The earlier viewpoint has been superceded, as indicated in our July/August 1989 issue. A student pilot may not log PIC time in an airplane.

Goodyear Inflatable.

FAA AVIATION NEWS welcomes comments from our readers. No anonymous letters will be used, but names will be withheld on request. Address: FAA AVIATION NEWS, AFS-20, Washington, DC 20591.

• Course Reversal

Please correct some confusion about transitioning from a holding pattern at the outer marker to the final approach course.

If the only course reversal published on the plate is a procedure turn, is this the only type of course reversal allowed, or can the aircraft just descend in the holding pattern and turn final when turning inbound?

Name Withheld

When a holding pattern or "tear drop" is shown instead of a procedure turn, that is the only type of course reversal allowed. Note that the holding pattern for course reversal will be shown in boldface — it should not be confused with the holding pattern for a missed approach which is shown in subdued type.

When the usual PT is shown, you may use the course reversal of your choice — 45°, 180, 45°; 90-270; 80-260; or tear drop holding pattern.

• BFR Grace Period

Up until recently the Biennial Flight Review was good up until the last day of the anniversary month in which it was originally taken. Under the new rules for BFR's and AFR's, as described on your July/August NEWS page, is this still true?

E.W. Benningfield
Ragtown, MO

Yes. Under the current rules a BFR or AFR is valid until the last day of the anniversary month.

• x-cty-time for IFR

Say I am building time for the PIC crosscountry requirement for an instrument rating under FAR Part 61.65. I undertake a circular course which totals 310 miles, starting and returning at point A. I make half a dozen landings. Some of these legs are longer than 50 NM, some are shorter.

Question: Does all the mileage count for 61.65 (e)(i), or only the legs that are longer than 50 nm.

William Diefenbach
Mineola, NY

Time is creditable for all legs which at no point were less than 50 NM (straight line) from the starting point.

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(continued from p. 5)

advice on flight planning for special activities, such as soaring, float plane flying, marginal or rapidly changing weather, etc. Some of the significant differences between the two systems are shown in Table 1.

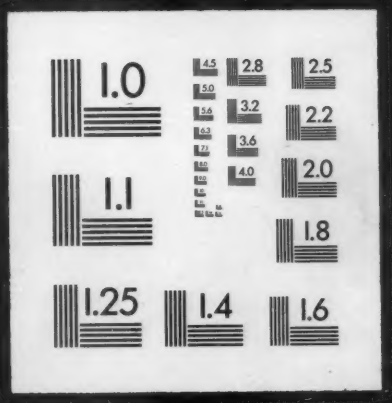
During its first 12 months in operation, DUATS is expected to provide approximately 20 percent of the pilot demand for flight briefing. In the following years FAA anticipates that computer systems share of the overall demand will increase by about five percent annually.

This does not mean, however, that the need for the consolidated flight service system will disappear, or even that AFSS/FSS staffing will decline sharply. Rather, the pilot demand assumed by DUATS will make it possible to accomodate continued growth in aviation, without restricting services or increasing the number of FSS specialists.

The FSS consolidation program, which within the next three years will see the original 300 FSS's combined into 61 automated FSS's, is approximately 50 percent complete. There are now 46 operational AFSS's and 162 remaining FSS's. Available in most of the states—and soon to be nationwide—is a single 800 number (WX BRIEF) which will automatically ring at your nearest flight service station. ■

Table 1
Comparative Features, AFSS and DUATS

Feature	AFSS	DUATS
Access	Any telephone (800 WX BRIEF automatically rings up the nearest AFSS)	Any personal computer
Average wait	30 seconds for briefer None for automated functions	None (expected)
Cost to pilots	Free	Free for 20 minute session, except for optional menu
Live briefer	Available (Possible delay)	None
Timeliness of information	Direct from Weather Center	Direct from Weather Center
PIREPS	Yes	Yes
Special Use Airspace activity	Yes	No
Nature of weather information	Tailored by briefer for your individual flight	Direct from Weather Center
Local special flight activity information	Soaring, ballooning, ultralight, etc.	None
NOTAM's	Provided with standard weather briefing, except for local NOTAM's issued at other FSS sites	NOTAM's "D" only
FDC NOTAM's	Yes	May be provided at given sites on request
Identifier codes	Translated into plain English	Use computer menu to encode, decode
Graphics	None (unless you visit AFSS)	May be available as value added option (Optional for a fee)
Information retention	Pilot's notes, memory	Pilot's notes, memory. Display may also be held on screen for study, or (with a computer printer) delivered as a hard copy.


1.0
1.1
1.25
1.4
1.6
2.8
3.2
3.6
4.0
2.5
2.2
2.0
1.8